



## UNITED STATES PATENT AND TRADEMARK OFFICE

OPM  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,469	10/05/2001	Fang Lai	SP01-290	4187
22928	7590	05/03/2004	[REDACTED]	EXAMINER
CORNING INCORPORATED SP-TI-3-1 CORNING, NY 14831			[REDACTED]	SMITH, CAROLYN L
			[REDACTED]	ART UNIT
			[REDACTED]	PAPER NUMBER
				1631

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/972,469	LAI ET AL.	
	Examiner Carolyn L Smith	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 14 October 2003 and 01 March 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-26 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12 and 27 is/are rejected.
- 7) Claim(s) 3 is/are objected to.
- 8) Claim(s) 1-27 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10052001</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____ .                                  |

## **DETAILED ACTION**

Applicants' election with traverse of Group I (claims 1-12), filed 10/14/03 and 3/1/04, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Amended claims 1 and 5 and new claim 27 are acknowledged. Claims 13-26 are withdrawn from consideration as being drawn to non-elected Groups.

The information disclosure statement, filed 10/5/01, has been fully considered.

Claims herein under examination are 1-12 and 27.

### ***Claim Objections***

Claim 3 is objected to because of the following informalities: Claim 3 recites the phrase "sequences are the sequence" which does not make sense. Correction is suggested by amending in the word "from" after the word "are". Also, it appears that the verb "contains" is directed to the term "sequences" such that the verb should be in plural form. Appropriate correction is required.

***Claims Rejected Under 35 U.S.C. § 112, second paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claims 1, 4-10, and 27 are vague and indefinite due to the unclarity of citing an abbreviation, such as UTR and gDNA. Correction is suggested by amending in of the full name in parentheses. Claims 2-3 and 11-12 are also rejected due to their direct or indirect dependency from claim 1.

Claim 1, line 5, recites the phrase “corresponding to” which is vague and indefinite. It is unclear what criteria and to what degree these criteria must be met to be considered to be corresponding. Clarification of the metes and bounds of this issue is requested. Claims 2-12 and 27 are also rejected due to their direct or indirect dependency from claim 1.

***Claim Rejections – 35 USC §102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2, 5-10, 12, and 27 are rejected under 35 U.S.C. 102(a) as being anticipated by Keating et al. (P/N 6,274,332).

Keating et al. disclose a method for amplifying exons (expressed genetic sequences) from human genomic DNA (higher-order eukaryotic species) (abstract; col. 2, lines 42-44; and col. 46, lines 60-62). Keating et al. disclose using screening methods to determine if a trapped exon was part of a gene (col. 46, lines 58-59). Keating et al. disclose screening alleles after cloning with various techniques including DNA microchip technology (DNA microarray) (col. 12, lines 20-26 and col. 40, lines 11-33). Keating et al. disclose identifying polyadenylation signals upstream to the 3'untranslated region with the longest open reading frame being 1654 base pairs of cDNA (corresponding to an expressed mRNA sequence) (col. 47, lines 1-5) which represents a length of at least about 75 nucleotides (instant claim 5), about 200 to 600 bases (instant claim 6), and about 250 to about 450 bases (instant claim 7), and up to about 2000 nucleotides (instant claim 27). Keating et al. disclose amplifying a portion of a gene (gDNA sequence within the 3'UTR or exon) and providing a set of primers (probes) for amplification of said portion (col. 8, lines 47-55; col. 10, lines 55-58; and col. 21, lines 10-12). Keating et al. disclose designing such primers (col. 13, lines 47-49). Keating et al. disclose an identification of exons in Figure 2 (col. 5, lines 23-24). Keating et al. disclose amplifying genomic samples by PCR using primer pairs (col. 56, lines 39-52). Keating et al. disclose amplifying exons on genomic clones, characterizing PCR products, DNA sequencing, and database analyses to reveal 8 exons with similarity to ion channels (col. 46, lines 39-57). Keating et al. disclose performing electrophoreses and cutting out SSCP bands (selected predetermined bands) from the gels to be reamplified (second PCR), products were separated and DNA was sequenced (col. 56, line 53 to col. 57, line 12). Keating

et al. disclose that the nucleic acids of their invention possess a sequence with substantial homology with a natural KVLQT1- or KCNE1-encoding gene or a portion thereof (col. 17, lines 1-5). It is noted that the “less than” terminology in instant claims 8 and 9 can include 0%, such that the substantial homology described above represents “homology of less than or equal to about” 40% or 70% as stated in instant claims 8 and 9. It is noted that the terminology “about 20% to 30%” in instant claim 10 can be reasonably and broadly interpreted to be encompassed by the “substantial homology” disclosure as stated above by Keating et al. Keating et al. disclose using nucleic acid microchips (col. 12, lines 20-30) which represents a deposition of sequences on a substrate in an array, as stated in instant claim 2. Keating et al. disclose this method is one of parallel processing at once (col. 12, lines 30-42) which represents a rectilinear format, as stated in instant claim 12.

Thus, Keating et al. anticipate the limitations in claims 1-2, 5-10, 12, and 27.

### ***Conclusion***

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR §1.6(d)). The CM1 Fax Center number is (703) 872-9306.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (571) 272-0721. The examiner can normally be reached Monday through Thursday from 8 A.M. to 6:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached on (571) 272-0722.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner Tina Plunkett whose telephone number is (571) 272-0549.

*Ardin H. Marschel*  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER 4/29/04

April 14, 2004